

PATENT SPECIFICATION



Application Date: Sept. 23, 1931. No. 26,538/31.

387,751

Complete Left: July 23, 1932.

Complete Accepted: Feb. 16, 1933.

PROVISIONAL SPECIFICATION.

Improvements relating to Gaseous and Liquid Fuel Burning Apparatus.

I, JOHN HAMILTON, Kia Ora, Palmeira Avenue, Westcliff-on-Sea, Essex, British, do hereby declare the nature of this invention to be as follows:—

5 An air baffle for use in conjunction with an oil fuel or gas burner of the type that functions with a mixture of air and oil or gas supplied under pressure through jets or the like, into a combustion chamber
10 or boiler.

The object of this invention is to prevent and control the rapid flight of the flame and combustible gases through the combustion chamber or boiler into the flue
15 or chimney.

To accomplish this object I employ an "air baffle" which is formed by passing air under pressure through an air spread-

ing jet or orifice so as to form an "air spread" of sufficient breadth to outspan and envelop the breadth of the flame from the burner.

The interposition of this air baffle between the invading flame and the outlet from the combustion chamber, and operating in the opposite direction to the travel of the flame, obstructs the passage of the flame in proportion to the pressure exerted by the "air spread" so that, in fact, the flight of the flame through the combustion chamber can be controlled by a valve operating on the air supply which feeds the baffle.

Dated the 23rd day of September, 1931.

JOHN HAMILTON.

COMPLETE SPECIFICATION.

Improvements relating to Gaseous and Liquid Fuel Burning Apparatus.

I, JOHN HAMILTON, Kia Ora, Palmeira Avenue, Westcliff-on-Sea, Essex, British, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

My invention relates to gaseous and liquid fuel apparatus of the type in which fuel is applied under pressure through a jet or the like, into a combustion chamber or boiler furnace and a jet of air is supplied from a nozzle opposite the burner.

The object of the invention is to prevent and control the rapid flight of the flame and combustible gases through the combustion chamber or boiler into the flue or chimney. I accomplish this object in the manner illustrated in the accompanying drawing by forming an air baffle by passing a pipe B into the combustion chamber and bringing the open end thereof round, so that it is directly opposite to the normal direction of the fuel jet A

in its passage through the furnace to the outlet from the furnace.

All the air is supplied under pressure through this pipe B which is provided with an air spreading nozzle or device, so as to form an "air spread" C of sufficient breadth to outspan the breadth of the flame from the burner to which it is opposed, so that the flame is entirely enveloped by the air blast, controlled and driven back from, and in the opposite direction to the flue leading from the furnace to the chimney. The interposition of this air baffle, in the path of the invading flame, through the combustion chamber in the direction of the chimney, obstructs the passage of the flame, and drives it back in proportion to the pressure of air supplied at the "air spread", so that the flight of the flame through the combustion chamber is not only controlled by the air baffle, but the flame and gases are actually extruded through the combustion chamber or boiler by the air blast which forms the air baffle.

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Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

A gaseous or liquid fuel burning apparatus of the type referred to and comprising a fuel burner and an air supply nozzle or the like opposite it, which delivers a

jet of air under pressure of sufficient breadth to outspan the breadth of the flame, and of sufficient strength to drive back the flame, the air jet being opposite to the normal direction of the passage of the gases from the burner to the outlet from the furnace to the chimney. 10 15

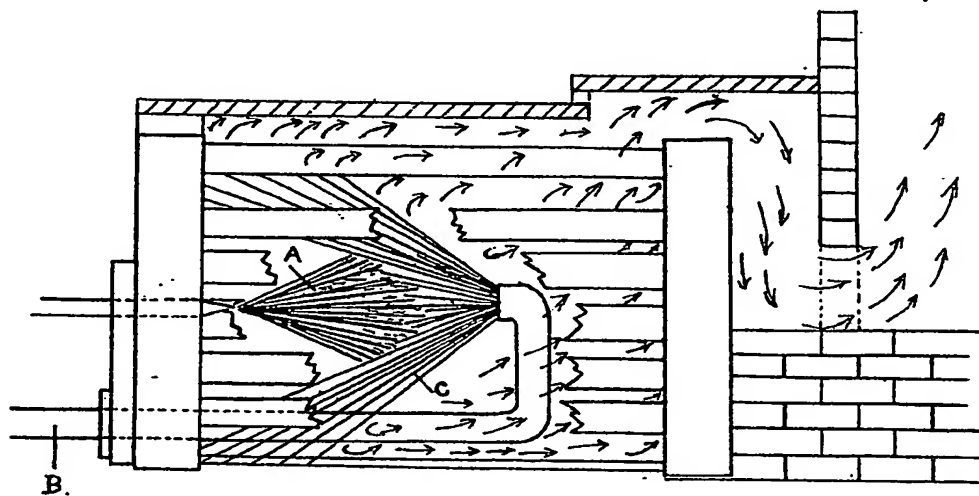
Dated this 22nd day of July, 1932.

JOHN HAMILTON.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1933.

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[This Drawing is a reproduction of the Original on a reduced scale.]



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